

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Total Metals By EPA Method 200.8

Client ID: M118777  
Date Received: 02/21/08  
Date Extracted: 02/21/08  
Date Analyzed: 02/22/08  
Matrix: Water  
Units: ug/L (ppb)

Client: Alaskan Copper Works  
Project: PO M118777, F&BI 802211  
Lab ID: 802211-01 x10  
Data File: 802211-01 x10.034  
Instrument: ICPMS1  
Operator: hr

Internal Standard:  
Germanium

% Recovery:  
83

Lower  
Limit:  
60

Upper  
Limit:  
125

Analyte:

Concentration  
ug/L (ppb)

Chromium  
Nickel  
Copper  
Zinc

676  
722  
618  
29.4

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### Analysis For Total Metals By EPA Method 200.8

|                 |                |             |                         |
|-----------------|----------------|-------------|-------------------------|
| Client ID:      | Method Blank   | Client:     | Alaskan Copper Works    |
| Date Received:  | Not Applicable | Project:    | PO M118777, F&BI 802211 |
| Date Extracted: | 02/21/08       | Lab ID:     | I8-059 mb               |
| Date Analyzed:  | 02/22/08       | Data File:  | I8-059 mb.015           |
| Matrix:         | Water          | Instrument: | ICPMS1                  |
| Units:          | ug/L (ppb)     | Operator:   | hr                      |

|                    |             |        |        |
|--------------------|-------------|--------|--------|
| Internal Standard: | % Recovery: | Lower  | Upper  |
| Germanium          | 63          | Limit: | Limit: |
|                    |             | 60     | 125    |

| Analyte: | Concentration<br>ug/L (ppb) |
|----------|-----------------------------|
| Chromium | <1                          |
| Nickel   | <1                          |
| Copper   | <1                          |
| Zinc     | <1                          |

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## ENVIRONMENTAL CHEMISTS

Date of Report: 02/27/08

Date Received: 02/21/08

Project: PO M118777, F&BI 802211

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 802189-01 (Duplicate)

| Analyte  | Reporting Units | Sample Result | Duplicate Result | Relative Percent Difference | Acceptance Criteria |
|----------|-----------------|---------------|------------------|-----------------------------|---------------------|
| Chromium | ug/L (ppb)      | 1.62          | 1.71             | 5                           | 0-20                |
| Nickel   | ug/L (ppb)      | 2.27          | 2.37             | 4                           | 0-20                |
| Copper   | ug/L (ppb)      | <1            | <1               | nm                          | 0-20                |
| Zinc     | ug/L (ppb)      | 3.04          | 2.78             | 9                           | 0-20                |

Laboratory Code: 802189-01 (Matrix Spike)

| Analyte  | Reporting Units | Spike Level | Sample Result | Percent Recovery MS | Acceptance Criteria |
|----------|-----------------|-------------|---------------|---------------------|---------------------|
| Chromium | ug/L (ppb)      | 20          | 1.62          | 106                 | 50-150              |
| Nickel   | ug/L (ppb)      | 20          | 2.27          | 104                 | 50-150              |
| Copper   | ug/L (ppb)      | 20          | <1            | 105                 | 50-150              |
| Zinc     | ug/L (ppb)      | 50          | 3.04          | 113                 | 50-150              |

Laboratory Code: Laboratory Control Sample

| Analyte  | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|----------|-----------------|-------------|----------------------|---------------------|
| Chromium | ug/L (ppb)      | 20          | 102                  | 70-130              |
| Nickel   | ug/L (ppb)      | 20          | 100                  | 70-130              |
| Copper   | ug/L (ppb)      | 20          | 114                  | 70-130              |
| Zinc     | ug/L (ppb)      | 50          | 97                   | 70-130              |



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### Data Qualifiers & Definitions

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 - More than one compound of similar molecule structure was identified with equal probability.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte indicated may be due to carryover from previous sample injections.
- d - The sample was diluted. Detection limits may be raised due to dilution.
- ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb - The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc - The compound is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht - The sample was extracted outside of holding time. Results should be considered estimates.
- ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j - The result is below normal reporting limits. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the compound indicated is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The pattern of peaks present is not indicative of diesel.
- y - The pattern of peaks present is not indicative of motor oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Charlene Morrow, M.S.  
Yelena Aravkina, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044  
e-mail: fbi@isomedia.com

February 27, 2008



INVOICE #08ACU0227-1

Accounts Payable  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

RE: Project PO M118777, F&BI 802211 - Results of testing requested by Gerry Thompson for material submitted on February 21, 2008.

|  |              |
|--|--------------|
| 1 sample analyzed for Total Chromium, Copper, Nickel and Zinc<br>by Method 200.8 @ \$80 per sample | \$ 80.00     |
| Rush Charges (4 day) 60% of \$80.00  | <u>48.00</u> |
| Amount Due .....   | \$ 128.00    |

FEDERAL TAX ID # (b) (6)

802 211

SAMPLE CHAIN OF CUSTODY

ME 02-21-08

AI3

Send Report To Gerard Thompson  
 Company ALASKAN Copper Works  
 Address 628 S Harbor ST  
 City, State, ZIP Seattle WA 98134  
 Phone # 206-571-6033 Fax # 206-382-9309

SAMPLER'S (signature) [Signature]  
 PROJECT NAME/NO. Metrol Self Monitor M118777 PO # M118777  
 REMARKS

Page # 1  
 TURNAROUND TIME  
☐ Standard (2 Weeks)  
☒ RUSH Today  
 Rush charges authorized by: \_\_\_\_\_  
 SAMPLE DISPOSAL  
☐ Dispose after 30 days  
☐ Return samples  
☐ Will call with instructions

| Sample ID | Lab ID | Date    | Time  | Sample Type | # of containers | ANALYSES REQUESTED |              |               |              |               |     |  |  |  |  | Notes |
|-----------|--------|---------|-------|-------------|-----------------|--------------------|--------------|---------------|--------------|---------------|-----|--|--|--|--|-------|
|           |        |         |       |             |                 | TPH-Diesel         | TPH-Gasoline | BTEX by 8021B | VOCs by 8260 | SVOCs by 8270 | HFS |  |  |  |  |       |
| M118777   | 01     | 2/21/08 | 12:30 | A20         | 1               |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |
|           |        |         |       |             |                 |                    |              |               |              |               |     |  |  |  |  |       |

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

| SIGNATURE                           | PRINT NAME             | COMPANY    | DATE           | TIME           |
|-------------------------------------|------------------------|------------|----------------|----------------|
| Relinquished by: <u>[Signature]</u> | <u>Gerard Thompson</u> | <u>ACU</u> | <u>2/21/08</u> | <u>1:34pm</u>  |
| Received by: <u>Daw</u>             | <u>DO VO</u>           | <u>FBI</u> | <u>"</u>       | <u>1:50 PM</u> |
| Relinquished by:                    |                        |            |                |                |
| Received by:                        |                        |            |                |                |

Samples received at 18 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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February 27, 2008

Gerry Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on February 21, 2008 from the Metro Self Monitor, PO M118777, F&BI 802211 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
ACU0227R.DOC